

Unit Planning Guide: Grade 3 Unit 6 of 6

Unit Title: Graphing and Measurement	Pacing (Duration of Unit): 3 weeks
Grade: 3	Buffer Day(s): 2 days

Desired Results

Transfer Goals

Students will be able to independently use their learning to:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- **Model with mathematics.**
- **Use appropriate tools strategically.**
- **Attend to precision.**
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Established Goals (2011 MA Curriculum Frameworks Standards Incorporating the Common Core State Standards)

Standards (Priority Standards in bold):

- **3.MD.3 Draw a scaled pictograph and a scaled bar graph to represent a data set with several categories. Solve one and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.**
- **3.MD.4 Generate measurement lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units- whole numbers, halves, or quarters.**
- 3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).¹ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).¹ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem
- 3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

WIDA for English Language Learners

Standard 1: ELLs **communicate** for **Social** and **Instructional** purposes within the school setting

Standard 3: ELLs **communicate** information, ideas and concepts necessary for academic success in the content area of **Mathematics**

In the lesson planning stage, teachers will need to differentiate lessons for ELLs. In order to accomplish this they will need: 1.) this curriculum map, 2.) a list of their ELLs and their proficiency levels, and 3.) appropriate language function expectations and scaffolds or supports.

--	--

Meaning (*Mostly assessed through Performance Tasks/Assessments)	
<p>Big Ideas: (Statements and concepts written in teacher friendly language which reflects the important [but not obvious] generalizations we want students to be able to arrive at. These are used by the teacher to focus daily instruction.)</p> <ul style="list-style-type: none"> Demonstrate an understanding of which tools are used to measure capacity, weight, volume and time. Scaled picture graphs and scaled bar graphs can be visually appealing context for solving multiplication and division problems. The same unit can be repeated to determine the measure (iteration). There is a relationship between the size of a unit and the number of units needed. <i>Because centimeters are a smaller unit than inches, you need more centimeters than inches to measure the same object.</i> 	<p>Essential Questions: (Questions which frame ongoing and important inquiries about the big ideas. They are written for students and used in daily instruction to help engage students in meaningful thinking.)</p> <ul style="list-style-type: none"> How do we choose the appropriate unit of measurement? How do we represent a given set of data? How can I use what I know about number lines to help me figure out how much time has passed between two events?

Acquisition (*Mostly assessed through traditional summative assessments)	
<p>Knowledge: Key basic concepts, facts, and key terms (written in phrases) students should be able to recall independently.</p> <p>Students will know ...</p> <ul style="list-style-type: none"> Problem solving involving measurement and estimation of intervals of time, liquid volumes, and masses of objects Problem solving involving addition and subtraction of time intervals in minutes <p>Key Academic Vocabulary:</p> <ul style="list-style-type: none"> Volume, mass, interval, gram, kilogram, liter, elapsed time, pictograph, bar graph, line plot, half, quarter, data set, 	<p>Skills: The discrete skills and process students should be able to use independently (<u>Bloom's Level of Learning should be noted in parentheses.</u>)</p> <p>Students will be skilled at:</p> <ul style="list-style-type: none"> Drawing scaled pictographs and scaled bar graphs to represent data with several categories (creating) Solving one and two step problems using information in bar graphs (applying) Interpreting pictogram, bar graph and line plots (applying) Making line plots where horizontal scale is marked off in appropriate units (creating) Telling time to the nearest minute (remembering) Writing time to the nearest minute (applying) Measuring time intervals in minutes (understanding) Measuring lengths using rulers marked with halves and fourths (understanding) Using a number line to measure time intervals (applying) Solving word problems involving addition and subtraction of time (applying) Measuring and estimating liquid volumes and masses of objects using grams,

	<p>kilograms and liters (understanding)</p> <ul style="list-style-type: none">• Solving one-sep problems about mass and volume that include the same unit (applying)
--	--